



**United States Environmental Protection Agency
Region 9 Laboratory**

1337 S. 46th Street Building 201
Richmond, CA 94804

Date: 2/8/2012
Subject: Analytical Testing Results - Project R33911
SDG: DRAFT 12033A
From: Brenda Bettencourt, Director
EPA Region 9 Laboratory
MTS-2
To: Richard Fetzer
US EPA Region 3, Eastern Response Branch
3HS31

Attached are the results from the analysis of samples from the **Dimock Residential Groundwater** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for DRAFT REPORT, the Lab Project Manager at (510)412-2300.

Analyses included in this report:

Dissolved Hydrocarbon Gases by GC



United States Environmental Protection Agency

Region 9 Laboratory

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Project Manager: Richard Fetzner

Project Number: R33911

Project: Dimock Residential Groundwater

US EPA Region 3, Eastern Response Branch

100 Gypsum Road

Stroudsburg PA, 18360

SDG: DRAFT 12033A

Reported: 02/08/12 17:51

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
DRAFT: HW32	1202005-01	Water	02/01/12 10:45	02/02/12 09:40
DRAFT: HW32-P	1202005-02	Water	02/01/12 10:50	02/02/12 09:40
DRAFT: HW33	1202005-03	Water	02/01/12 10:49	02/02/12 09:40
DRAFT: HW33a-P	1202005-04	Water	02/01/12 10:42	02/02/12 09:40
DRAFT: HW33b-P	1202005-05	Water	02/01/12 11:42	02/02/12 09:40
DRAFT: TB12	1202005-06	Water	02/01/12 07:20	02/02/12 09:40
DRAFT: FB07	1202005-07	Water	01/31/12 14:15	02/02/12 09:40
DRAFT: HW26-P	1202005-08	Water	01/31/12 11:37	02/02/12 09:40
DRAFT: HW29	1202005-09	Water	01/31/12 18:18	02/02/12 09:40
DRAFT: HW29z	1202005-10	Water	01/31/12 18:18	02/02/12 09:40
DRAFT: HW35	1202005-11	Water	01/31/12 11:49	02/02/12 09:40
DRAFT: HW52	1202005-12	Water	01/31/12 15:22	02/02/12 09:40
DRAFT: TB10	1202005-13	Water	01/31/12 07:20	02/02/12 09:40
DRAFT: TB11	1202005-14	Water	01/31/12 07:25	02/02/12 09:40
DRAFT: TB13	1202005-15	Water	02/01/12 07:23	02/02/12 09:40
DRAFT: HW26	1202005-16	Water	01/31/12 10:26	02/02/12 09:40

SDG ID DRAFT 12033A

Dissolved Hydrocarbon Gases: Sample 1202005-11 was prepared and analyzed immediately after sample 1202005-10 which has high concentrations of methane. Methane result for 1202005-11 (30 ug/L) may be elevated due to carry over or contamination. The sample was used for MS/MSD pair. Low MS/MSD recoveries were reported for methane. Methane concentration detected in the MS/MSD was about the same as the spike level. It is therefore likely that the methane detected in the sample was either cross contamination or a carryover on the instrument. The sample will be reanalyzed and revised data for the sample may be submitted at a later date.

Bottles for samples 1202005-01 (HW32) 1202005-02 (HW32-P), and 1202005-15 (TB13) were received at 9 degrees Celcius. This is above the recommended transport and storage temperature of 0 - 6 degrees C. No significant effect on the data is expected.

Work Order(s)

1202005



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SDG: DRAFT 12033A

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Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1202005-01		Water - Sampled: 02/01/12 10:45							
Sample ID: DRAFT: HW32		DRAFT: Dissolved Gases by RSK-175							
Methane	RE1	210		3.2	ug/L	B2B0015	02/03/12	02/06/12	RSK-175/SOP325
Ethane		ND	U	1.2	"	B2B0008	02/02/12	02/02/12	RSK-175/SOP325
Ethene		ND	U	1.1	"	"	"	"	RSK-175/SOP325
<i>Surrogate: Acetylene</i>			112 %	66.4-153%		"	"	"	
<i>Surrogate: Acetylene</i>		RE1	104 %	66.4-153%		B2B0015	02/03/12	02/06/12	
Lab ID: 1202005-02		Water - Sampled: 02/01/12 10:50							
Sample ID: DRAFT: HW32-P		DRAFT: Dissolved Gases by RSK-175							
Methane	RE1	310		3.2	ug/L	B2B0015	02/03/12	02/06/12	RSK-175/SOP325
Ethane		ND	U	1.2	"	B2B0008	02/02/12	02/02/12	RSK-175/SOP325
Ethene		ND	U	1.1	"	"	"	"	RSK-175/SOP325
<i>Surrogate: Acetylene</i>			111 %	66.4-153%		"	"	"	
<i>Surrogate: Acetylene</i>		RE1	110 %	66.4-153%		B2B0015	02/03/12	02/06/12	
Lab ID: 1202005-03		Water - Sampled: 02/01/12 10:49							
Sample ID: DRAFT: HW33		DRAFT: Dissolved Gases by RSK-175							
Methane		1.3	B1, J	1.2	ug/L	B2B0008	02/02/12	02/02/12	RSK-175/SOP325
Ethane		ND	U	1.2	"	"	"	"	RSK-175/SOP325
Ethene		ND	U	1.1	"	"	"	"	RSK-175/SOP325
<i>Surrogate: Acetylene</i>			109 %	66.4-153%		"	"	"	
Lab ID: 1202005-04		Water - Sampled: 02/01/12 10:42							
Sample ID: DRAFT: HW33a-P		DRAFT: Dissolved Gases by RSK-175							
Methane		1.0	B1, C1, J	1.2	ug/L	B2B0008	02/02/12	02/02/12	RSK-175/SOP325
Ethane		ND	U	1.2	"	"	"	"	RSK-175/SOP325
Ethene		ND	U	1.1	"	"	"	"	RSK-175/SOP325
<i>Surrogate: Acetylene</i>			110 %	66.4-153%		"	"	"	
Lab ID: 1202005-05		Water - Sampled: 02/01/12 11:42							
Sample ID: DRAFT: HW33b-P		DRAFT: Dissolved Gases by RSK-175							
Methane		0.9	B1, C1, J	1.2	ug/L	B2B0008	02/02/12	02/02/12	RSK-175/SOP325
Ethane		ND	U	1.2	"	"	"	"	RSK-175/SOP325
Ethene		ND	U	1.1	"	"	"	"	RSK-175/SOP325
<i>Surrogate: Acetylene</i>			110 %	66.4-153%		"	"	"	
Lab ID: 1202005-06		Water - Sampled: 02/01/12 07:20							
Sample ID: DRAFT: TB12		DRAFT: Dissolved Gases by RSK-175							
Methane		1.2	B1, C1, J	1.2	ug/L	B2B0008	02/02/12	02/02/12	RSK-175/SOP325
Ethane		ND	U	1.2	"	"	"	"	RSK-175/SOP325
Ethene		ND	U	1.1	"	"	"	"	RSK-175/SOP325



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Project: Dimock Residential Groundwater

US EPA Region 3, Eastern Response Branch

100 Gypsum Road

Stroudsburg PA, 18360

SDG: DRAFT 12033A

Reported: 02/08/12 17:51

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1202005-06							Water - Sampled: 02/01/12 07:20		
Sample ID: DRAFT: TB12							DRAFT: Dissolved Gases by RSK-175		
Surrogate: Acetylene		110 %		66.4-153%		B2B0008	02/02/12	02/02/12	
Lab ID: 1202005-07							Water - Sampled: 01/31/12 14:15		
Sample ID: DRAFT: FB07							DRAFT: Dissolved Gases by RSK-175		
Methane		1.1	B1, C1, J	1.2	ug/L	B2B0008	02/02/12	02/02/12	RSK-175/SOP325
Ethane		ND	U	1.2	"	"	"	"	RSK-175/SOP325
Ethene		ND	U	1.1	"	"	"	"	RSK-175/SOP325
Surrogate: Acetylene		110 %		66.4-153%		"	"	"	
Lab ID: 1202005-08							Water - Sampled: 01/31/12 11:37		
Sample ID: DRAFT: HW26-P							DRAFT: Dissolved Gases by RSK-175		
Methane	RE1	38,000		480	ug/L	B2B0015	02/03/12	02/06/12	RSK-175/SOP325
Ethane		17		1.2	"	B2B0008	02/02/12	02/02/12	RSK-175/SOP325
Ethene		ND	U	1.1	"	"	"	"	RSK-175/SOP325
Surrogate: Acetylene		106 %		66.4-153%		"	"	"	
Surrogate: Acetylene	RE1	113 %		66.4-153%		B2B0015	02/03/12	02/06/12	
Lab ID: 1202005-09							Water - Sampled: 01/31/12 18:18		
Sample ID: DRAFT: HW29							DRAFT: Dissolved Gases by RSK-175		
Methane	RE1	77,000		970	ug/L	B2B0015	02/03/12	02/06/12	RSK-175/SOP325
Ethane	RE1	4,700		970	"	"	"	"	RSK-175/SOP325
Ethene		ND	U	1.1	"	B2B0008	02/02/12	02/02/12	RSK-175/SOP325
Surrogate: Acetylene		102 %		66.4-153%		"	"	"	
Surrogate: Acetylene	RE1	110 %		66.4-153%		B2B0015	02/03/12	02/06/12	
Lab ID: 1202005-10							Water - Sampled: 01/31/12 18:18		
Sample ID: DRAFT: HW29z							DRAFT: Dissolved Gases by RSK-175		
Methane	RE1	62,000		640	ug/L	B2B0015	02/03/12	02/06/12	RSK-175/SOP325
Ethane	RE1	4,100		640	"	"	"	"	RSK-175/SOP325
Ethene		ND	U	1.1	"	B2B0008	02/02/12	02/02/12	RSK-175/SOP325
Surrogate: Acetylene		102 %		66.4-153%		"	"	"	
Surrogate: Acetylene	RE1	115 %		66.4-153%		B2B0015	02/03/12	02/06/12	
Lab ID: 1202005-11							Water - Sampled: 01/31/12 11:49		
Sample ID: DRAFT: HW35							DRAFT: Dissolved Gases by RSK-175		
Methane		30	A-01, J, Q4	1.2	ug/L	B2B0008	02/02/12	02/02/12	RSK-175/SOP325
Ethane		1.1	C1, J	1.2	"	"	"	"	RSK-175/SOP325
Ethene		ND	U	1.1	"	"	"	"	RSK-175/SOP325
Surrogate: Acetylene		112 %		66.4-153%		"	"	"	
Lab ID: 1202005-12							Water - Sampled: 01/31/12 15:22		
Sample ID: DRAFT: HW52							DRAFT: Dissolved Gases by RSK-175		



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SDG: DRAFT 12033A

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Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1202005-12		Water - Sampled: 01/31/12 15:22							
Sample ID: DRAFT: HW52		DRAFT: Dissolved Gases by RSK-175							
Methane	RE1	19,000		130	ug/L	B2B0015	02/03/12	02/06/12	RSK-175/SOP325
Ethane		14		1.2	"	B2B0008	02/02/12	02/02/12	RSK-175/SOP325
Ethene		ND	U	1.1	"	"	"	"	RSK-175/SOP325
<i>Surrogate: Acetylene</i>			105 %	66.4-153%		"	"	"	
<i>Surrogate: Acetylene</i>		RE1	111 %	66.4-153%		B2B0015	02/03/12	02/06/12	
Lab ID: 1202005-13		Water - Sampled: 01/31/12 07:20							
Sample ID: DRAFT: TB10		DRAFT: Dissolved Gases by RSK-175							
Methane		1.0	B1, C1, J	1.2	ug/L	B2B0008	02/02/12	02/02/12	RSK-175/SOP325
Ethane		ND	U	1.2	"	"	"	"	RSK-175/SOP325
Ethene		ND	U	1.1	"	"	"	"	RSK-175/SOP325
<i>Surrogate: Acetylene</i>			113 %	66.4-153%		"	"	"	
Lab ID: 1202005-14		Water - Sampled: 01/31/12 07:25							
Sample ID: DRAFT: TB11		DRAFT: Dissolved Gases by RSK-175							
Methane		1.0	B1, C1, J	1.2	ug/L	B2B0008	02/02/12	02/03/12	RSK-175/SOP325
Ethane		ND	U	1.2	"	"	"	"	RSK-175/SOP325
Ethene		ND	U	1.1	"	"	"	"	RSK-175/SOP325
<i>Surrogate: Acetylene</i>			111 %	66.4-153%		"	"	"	
Lab ID: 1202005-15		Water - Sampled: 02/01/12 07:23							
Sample ID: DRAFT: TB13		DRAFT: Dissolved Gases by RSK-175							
Methane		1.0	B1, C1, J	1.2	ug/L	B2B0008	02/02/12	02/03/12	RSK-175/SOP325
Ethane		ND	U	1.2	"	"	"	"	RSK-175/SOP325
Ethene		ND	U	1.1	"	"	"	"	RSK-175/SOP325
<i>Surrogate: Acetylene</i>			112 %	66.4-153%		"	"	"	
Lab ID: 1202005-16		Water - Sampled: 01/31/12 10:26							
Sample ID: DRAFT: HW26		DRAFT: Dissolved Gases by RSK-175							
Methane	RE1	43,000		480	ug/L	B2B0015	02/03/12	02/06/12	RSK-175/SOP325
Ethane		18		1.2	"	B2B0008	02/02/12	02/02/12	RSK-175/SOP325
Ethene		ND	U	1.1	"	"	"	"	RSK-175/SOP325
<i>Surrogate: Acetylene</i>			99 %	66.4-153%		"	"	"	
<i>Surrogate: Acetylene</i>		RE1	114 %	66.4-153%		B2B0015	02/03/12	02/06/12	



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Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B2B0008 - RSK175 - Dissolved HC Gases

Prepared & Analyzed: 02/02/12

DRAFT: Dissolved Gases by RSK-175 - Quality Control

Blank (B2B0008-BLK1)

Methane	0.6	C1, J		1.2 ug/L						
Ethane	ND	U		1.2 "						
Ethene	ND	U		1.1 "						

Surrogate: Acetylene 73.7 " 66.5 111 66.4-153

LCS (B2B0008-BS1)

Methane	42.6			1.2 ug/L	44.1		97	70-130		200
Ethane	84.1			1.2 "	83.2		101	77-137		200
Ethene	79.8			1.1 "	78.3		102	78-138		200

Surrogate: Acetylene 77.7 " 72.0 108 66.4-153

Matrix Spike (B2B0008-MS1)

Source: 1202005-11

Methane	56.8			1.2 ug/L	44.1	30.1	60	70-130		20
Ethane	82.8			1.2 "	83.2	1.09	98	70-130		20
Ethene	76.5			1.1 "	78.3	ND	98	70-130		20

Surrogate: Acetylene 141 " 139 102 66.4-153

Matrix Spike Dup (B2B0008-MSD1)

Source: 1202005-11

Methane	48			1.2 ug/L	44.1	30.1	40	70-130	17	20
Ethane	78.1			1.2 "	83.2	1.09	93	70-130	6	20
Ethene	73			1.1 "	78.3	ND	93	70-130	5	20

Surrogate: Acetylene 142 " 139 103 66.4-153

Batch B2B0015 - RSK175 - Dissolved HC Gases

Prepared: 02/03/12 Analyzed: 02/06/12

DRAFT: Dissolved Gases by RSK-175 - Quality Control

Blank (B2B0015-BLK1)

Methane	0.7	C1, J		1.2 ug/L						
Ethane	ND	U		1.2 "						
Ethene	ND	U		1.1 "						

Surrogate: Acetylene 75.7 " 66.5 114 66.4-153

LCS (B2B0015-BS1)

Methane	37.7			1.2 ug/L	44.1		85	70-130		200
Ethane	74.4			1.2 "	83.2		89	77-137		200
Ethene	72			1.1 "	78.3		92	78-138		200

Surrogate: Acetylene 74.4 " 72.0 103 66.4-153



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Q4 The matrix spike and/or matrix spike duplicate associated with this sample did not meet recovery criteria for this analyte (see MS/MSD results for this batch in QC summary)

J The reported result for this analyte should be considered an estimated value.

C1 The reported concentration for this analyte is below the quantitation limit.

B1 The concentration of this analyte found in this sample was less than five times the concentration found in the associated method blank.

A-01 Possible carry over or contamination during preparation from previous sample

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.